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Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) An apparatus for controlling an actuator system in a rotating portion of a hydraulic system, the actuator system having an electrical actuator in hydraulic communication with a hydraulic actuator and a hydraulic source, the apparatus comprising:

a rotary seal having a channel to pass a hydraulic flow from a stationary portion of the hydraulic system to the rotating portion and a channel to return the hydraulic flow from the rotating portion to the stationary portion;

a source of electrical power disposed in the rotating portion;

a controller module disposed in the rotating portion and being in electrical communication with the source of electrical power to receive power therefrom and in electrical communication with the electrical actuator; and

a transceiver disposed in the rotating portion and being in communication with the controller module, the transceiver adapted for wireless communication with a remote transceiver, the wireless communication including transfer of control data and feedback data with the remote transceiver, the controller module sending a control signal to the electrical actuator in response to control data received from the remote transceiver.

2. (Original) The apparatus of claim 1 further comprising the remote transceiver.

3. (Currently amended) The apparatus of claim 1 wherein the source of electrical power comprises:

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a hydraulic motor in hydraulic communication with the hydraulic source; and

an alternating current (AC) generator in mechanical communication with the hydraulic motor.

4. (Original) The apparatus of claim 3 wherein the source of electrical power further comprises a boost rectifier in electrical communication with the AC generator.
5. (Original) The apparatus of claim 2 further comprising a remote controller module in communication with the remote transceiver.
6. (Original) The apparatus of claim 5 further comprising an operator control module in communication with the remote controller module.
7. (Original) The apparatus of claim 1 wherein the controller module comprises a digital signal processor.
8. (Original) The apparatus of claim 1 further comprising a sensor in communication with the controller module.
9. (Original) The apparatus of claim 8 wherein the sensor comprises one of a proximity switch, a temperature sensor, a pressure sensor, a flow sensor and a level switch.
10. (Original) The apparatus of claim 1 further comprising the electrical actuator.
11. (Original) The apparatus of claim 10 wherein the electrical actuator is a solenoid valve.

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12. (Currently amended) An apparatus for controlling the operation of an actuator system of a top drive, the actuator system having an electrical actuator and a hydraulic actuator ~~in hydraulic communication, the electrical actuator being in hydraulic communication with a hydraulic source through a rotary seal~~, the apparatus comprising:

a rotary seal having a channel to pass a hydraulic flow from a stationary portion of the top drive to a rotating portion of the top drive and having a channel to return the hydraulic flow from the rotating portion to the stationary portion;

a source of electrical power disposed in the rotating portion;

a first controller module disposed in the rotating portion and being in communication with the source of electrical power and the electrical actuator; and

a first transceiver disposed in the rotating portion and being configured for communication with a second transceiver through a wireless communication link to transfer control data and feedback data, the first controller module sending a control signal to the electrical actuator in response to the control data.

13. (Currently amended) The apparatus of claim 12 wherein the source of electrical power comprises:

a hydraulic motor ~~in~~ adapted for communication with the a hydraulic source in the stationary portion; and

an alternating current (AC) generator in mechanical communication with the hydraulic motor.

14. (Original) The apparatus of claim 13 wherein the source of electrical power further comprises a boost rectifier in electrical communication with the AC generator.

15. (Original) The apparatus of claim 12 further comprising the second transceiver.

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16. (Original) The apparatus of claim 15 further comprising a second controller module in communication with the second transceiver module.
17. (Original) The apparatus of claim 16 further comprising an operator control module in communication with the second controller module.
18. (Original) The apparatus of claim 12 further comprising a sensor in communication with the first controller module.
19. (Original) The apparatus of claim 18 wherein the sensor is one of a proximity switch, a temperature sensor, a pressure sensor, a flow sensor and a level switch.
20. (Currently amended) A method of controlling an actuator system having a hydraulic actuator disposed in a rotating portion of a hydraulic system, the method comprising:
- providing a hydraulic flow from a stationary portion of the hydraulic system to the hydraulic actuator system;
- generating electrical power from the hydraulic flow at the actuator in the rotating portion of the hydraulic system;
- receiving a data signal from a remote wireless transceiver; and
- controlling the hydraulic actuator in response to the received data signal and the electrical power.
21. (Original) The method of claim 20 wherein the received data signal comprises control data.
22. (Original) The method of claim 20 further comprising transmitting a data signal from the actuator system to the remote wireless transceiver.
23. (Original) The method of claim 22 wherein the transmitted data signal comprises sensor data.

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24. (Original) The method of claim 23 wherein the sensor data is indicative of at least ~~one~~ of actuator speed, hydraulic flow rate, temperature, position and component binary state.

25. (Currently amended) An apparatus for controlling a hydraulic actuator in a rotating portion of a hydraulic system, the apparatus comprising:

means for passing a hydraulic flow from a stationary portion of the hydraulic system to the rotating portion and for returning the hydraulic flow from the rotating portion to the stationary portion;

means disposed in the rotating portion for converting hydraulic flow to electrical power,

means disposed in the rotating portion for receiving control data from a remote ~~transmitter~~ transceiver over a wireless link;

means disposed in the rotating portion for generating an electrical control signal in response to the electrical power and the received control data; and

means for operating the hydraulic actuator responsive to the electrical control signal.

26. (Currently amended) The apparatus of claim 25 further comprising means for transmitting sensor data to the remote ~~transmitter~~ transceiver over the wireless link.